If we do not care to eliminate the goldenrod from the national flower contest because of thoughtfulness for our friends and neighbors who suffer from its existence, let us do so merely from the efficiency standpoint, both individual and state.

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SCIENTIFIC BOOKS

The Theory of Relativity of Motion. By R. C. TOLMAN. University of California Press. ix + 225 pp.

This book, which the author calls an introduction to the theory of relativity, is very attractive in style, sufficiently accurate, and covers the subject rather thoroughly. After a brief sketch of the historical development and statement of the postulates on which Einstein founded the theory, there is a very interesting chapter containing "elementary deductions" of some of the most striking results. This chapter makes it possible for students of physics to get a fairly definite idea of the subject without the rather perplexing mathematics in which it is usually hidden. Unfortunately the author finds it necessary to state that observers moving relatively to each other would find the same measurements perpendicular to the line of motion because they could make a direct comparison of their meter sticks when the motion brings such meter sticks into juxtaposition. There is nothing in the previous discussion that shows why this applies when the meter sticks are perpendicular to the line of motion and not when they are parallel to it.

A reader interested in the formal development would perhaps turn first to the chapter on the Lorentz transformations for, as Poincaré pointed out, these constitute the real essence of relativity. Most writers have some difficulty in logically deducing these from Einstein's postulates, the reason apparently being that it can not be done. The author avoids this difficulty by showing that the transformations do satisfy the postulates without attempting the impossible converse.

The applications cover the dynamics of a system of particles, elastic bodies, thermodynamic systems, and electromagnetic theory. In a chapter on the chaotic motion of a system of particles there is given what amounts to statistical mechanics in the form required by the principle of relativity. The last chapter is an introduction to the four-dimensional vector analysis used by Wilson and Lewis. This will be welcomed by many readers who have struggled with the original. The book does not enter into the extended relativity proposed by Einstein in connection with his speculations on gravitation. H. B. PHILLIPS

SPECIAL ARTICLES

ON EXPLAINING MENDELIAN PHENOMENA

So many devices have been invented for representing the possible combinations of the various factors in Mendelian inheritance that one comes to entertain a suspicion that other folk have their troubles also in the presentation of this subject to beginners. The following suggestion is offered as having helped in serious cases. The beginning student of heredity is dealing with unfamiliar terms and, unless considerable laboratory work has rendered him no longer a beginner, he is considering unfamiliar processes. In his quicksand of strangeness he is glad to find a firmament of familiarity and he, therefore, welcomes a process of reasoning or of routine that he has employed before. Practically every high school graduate has had at least a year of algebra and has learned by rote the square of $a + b$. Whether or not he remembers that $a^2 + 2ab + b^2$ represents all the possible combinations of the two factors, he is in a position to be reminded of that fact and to take the first short step into the unfamiliar. If a and b represent the two types of gametes produced by the heterozygous parents F_1, then $a^2 + 2ab + b^2$ represents all possible progeny in the F_2 generation. Factors of second power represent pure strains because the determiner is the same from both parents. Conversely factors of the first power represent heterozygotes or the union of unlike determiners.

The greatest service of this method appears when the two sets of allelomorphs are combined. The student has learned to multiply $a^2 + 2ab + b^2$ by the expression $x^2 + 2xy + y^2$. He will perform the operation as one familiar to him and he can readily be taught to recognize the four pure strains a^2x^2, a^2y^2, b^2x^2, b^2y^2. Suppose a and y represent the dominant characters and b and x represent the recessives, emphasizing the fact that the dominant is effective whether appearing as the first or as the second power. Suppose a represent tallness and y represent red flower in a plant. Gathering the results of the multiplication according to visible attributes we have four columns representing the Mendelian ratio 9:3:3:1.

Tall Red	Tall White	Dwarf Red	Dwarf White
$2a^2xy$ $4abxy$ $2aby^2$ a^2y^2	a^2x^2 $2abx^2$	b^2y^2 $2bxy$	b^2x^2
9	3	3	1

This is only one of many devices all alike fundamentally but it has the great value of utilizing a familiar process. Many times I have seen it clear up a badly fogged situation. It is worth trying on the discouraged pupil at any rate.

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SILEXITE: A NEW ROCK NAME

IN the granites of the Adirondack region the writer has observed many bodies of pure or nearly pure silica of igneous origin in the form of dikes segregation masses practically *in situ*, or inclusions. Among many other districts where similar masses of silica occur is the Silver Peak quadrangle of Nevada in an account of which Spurr has described many considerable bodies of quartz of magmatic origin. Numerous fine examples of so-called "quartz dikes" occur in the Holyoke quadrangle of western Massachusetts described by Emerson. The need for a definite name to apply to any such body of silica has impressed itself upon the writer during the preparation of a discussion of the acidic dikes of northern New York. Such terms as "quartz dikes" or "dike quartz" are not comprehensive enough, first, because much of the silica under consideration is not in dike form, and, second, because the silica may be either quartz or tridymite depending upon the temperature of crystallization.

The term "selexite" is proposed for any body of pure or nearly pure silica of igneous or aqueo-igneous origin which occurs as a dike, segregation mass, or inclusion within or without its parent rock. This term is based upon the name "silex" used by Pliny in his "Natural History" for the mineral now known as quartz. "Silexite," therefore, not only has the advantage of simplicity as a name, but also it directly suggests the composition of the rock which it names.

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THE WESTERN SOCIETY OF NATURALISTS

THE Bay Section of the society held a two-day meeting at Stanford University, November 29–30, 1918. The sessions, held in Jordan Hall, were well attended and the various papers which were of more than usual interest were enthusiastically received. Dr. Joseph Grinnell served as chairman. An informal dinner Friday evening and a field trip on Saturday afternoon were features of the occasion. Dr. S. D. Townley gave the evening lecture on "The recent solar eclipse."

The following papers were presented:

Isolation as a factor in species forming: DAVID STARR JORDAN, Stanford University.

A Thanksgiving Day registration of plants in bloom on Mt. Tamalpais: ALICE EASTWOOD, California Academy of Sciences.

Use of selective dyes in sanitary examination of water: IVAN C. HALL, University of California.

The naturalist's place in his community: E. W. ALLEN, Fresno High School.

Adaptation of the eyes of birds for rapid flight: J. R. SLONAKER, Stanford University.

Intrauterine absorption of conceptsuses: A. W. MEYER, Stanford University.